NANOPARTICLE-FILLED STEREOLITHOGRAPHIC

ABSTRACT OF THE DISCLOSURE

A process for forming a three-dimensional article by stereolithography, said process comprising the steps:

- 1) coating a thin layer of a liquid radiation-curable composition onto a surface said composition including at least one filler comprising silica-type nano-particles suspended in the radiation-curable composition:
- 2) exposing said thin layer imagewise to actinic radiation to form an imaged crosssection, wherein the radiation is of sufficient intensity to cause substantial curing of the thin layer in the exposed areas;
- 3) coating a thin layer of the composition onto the previously exposed imaged cross-section;
- 4) exposing said thin layer from step (3) imagewise to actinic radiation to form an additional imaged cross-section, wherein the radiation is of sufficient intensity to cause substantial curing of the thin layer in the exposed areas and to cause adhesion to the previously exposed imaged cross-section;
- 5) repeating steps (3) and (4) a sufficient number of times in order to build up the three-dimensional article.